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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------|
| 09/830,145  | 04/20/2001  | Christian John Cook  | 14684.47                | 9802             |
| 22913   | 7590        | 02/10/2004           |                         |                  |
| WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY)<br>60 EAST SOUTH TEMPLE<br>1000 EAGLE GATE TOWER<br>SALT LAKE CITY, UT 84111 |             |                      | EXAMINER<br>SUN, XIUQIN |                  |
|   |             |                      | ART UNIT<br>2863        | PAPER NUMBER     |

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/830,145

Applicant(s)

COOK, CHRISTIAN JOHN

Examiner

Xiuqin Sun

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 39-41, 43-45, 47-67 and 89-108 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39-41, 43-45, 47-67 and 95-107 is/are allowed.
- 6) ☒ Claim(s) 89-94 and 108 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of inventions III (claims 39-67 along with generic claims 89-94) in Paper No. 8 is acknowledged.

Claims 1-38 and 68-88 stand withdrawn in view of the election without traverse of paper No. 8.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 89-94 and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace et al. (U.S. Pat. No. 4865044) in view of Matsumura (U.S. Pat. No. 5050612).

Wallace et al. teach a temperature sensing device comprising: an ear tag having an attachment portion to extend through a body part of an animal (Fig. 2; col. 4-5, lines 54-2); one or more animal temperature sensors disposed on/in the attachment portion for contact with the animal during use and providing an output indicative of temperature (col. 4-5, lines 54-2; col. 5, lines 16-35 and col. 6-7, lines 65-46). Wallace et al. further

teach: an ambient temperature sensor is also provided on the tag; comparison means is provided for comparing the ambient temperature with the animal temperature; and the tag comprises a one piece molded body (col. 4, lines 54-67; col. 5, lines 1-2; col. 5, lines 16-35; col. 6, lines 65-67 and col. 7, lines 1-46).

Wallace et al. do not mention explicitly that: an indicator mounted on the tag or incorporated therewith and communicating with the one or more animal temperature sensors, said indicator being configured to provide a local indication depending on said output from said one or more animal temperature sensors; and said indicator is disposed on the tag, being responsive to the comparison means.

Matsumura teaches a device for monitoring of body temperature, comprising: a tag having an attachment portion to extend through a body port of a subject (Figs. 2, 5 and 8; col. 2, lines 63-67 and col. 3, lines 1-7); one or more temperature sensors for sensing body temperature (Fig. 8; col. 2, lines 63-67; col. 3, lines 1-7 and col. 11, lines 14-47); and an indicator mounted on the tag or incorporated therewith and communicating with the one or more animal temperature sensors, said indicator being configured to provide a local indication depending on said output from said one or more animal temperature sensors, being responsive to a comparison means. (Fig. 8; col. 2, lines 63-67; col. 3, lines 1-7; col. 3, lines 51-57; col. 11, lines 14-47; col. 15, lines 24-67 and col. 16, lines 1-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teachings of Matsumura in the invention of Wallace

Art Unit: 2863

et al. in order to provide a read-out of a local indication of valuable information calculated by the device in real-time (Matsumura, col. 3, lines 51-57).

***Allowable Subject Matter***

4. Claim 39-41, 43-45, 47-56, 57-67 and 95-107 are allowed.

***Reasons for Allowance***

5. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claims 39, 41, 43-45 and 47-56 is the inclusion of the method steps of: determining an indication or measure of the extent of variation in said measurements as a whole over said time period; and comparing said indication or measure of the extent of variation to a predetermined threshold. It is these steps found in each of the claims, as they are claimed in the combination, that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claim 40 is the inclusion of the method step of correlating the results of the algorithm with at least one of a meat tenderness, a pH, and a stress standard. It is this step found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claims 57-67 is the inclusion of the limitations of: determining an indication or measure of the extent of variation in said

Art Unit: 2863

measurements as a whole over said time period; and comparing said indication or measure of the extent of variation to a predetermined threshold. It is these limitations found in each of the claims, as they are claimed in the combination, that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claim 95-98 is the inclusion of the step of adding all variances to obtain the cumulative temperature variance score, and comparing said score to a predetermined threshold. It is this step found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 99 is the inclusion of the method step of applying an algorithm to the measurements which cumulatively takes account of variations in body temperature over time. It is this step found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes the claim allowable over the prior art.

The primary reason for the allowance of claims 100 and 102 is the inclusion of the method steps of applying an algorithm where:

$t_{\text{ear}}$  is the instantaneous ear temperature;

$t_{\text{ambient}}$  is the instantaneous ambient air temperature;

$d$  is the difference between ear and ambient temperatures;

$\text{fast}$  is the fast-response filter element;

$\text{slow}$  is the slow response filter element;

Art Unit: 2863

$v$  is the integral of the difference between the two filter elements;

$c_1$  is the time constant of the fast filter;

$c_2$  is the time constant of the slow filter;

Time constants are such that  $c_1 > c_2$ ,  $0 < c_1 < 1$ ,  $0 < c_2 < 1$ ;

where initially:

$$n = 1$$

$$d_0 = t_{\text{ear}} - t_{\text{ambient}}$$

$$\text{fast}_0 = d_0$$

$$\text{slow}_0 = d_0$$

$$v_0 = 0$$

and where at each sampling interval:

$$d_n = t_{\text{ear}} - t_{\text{ambient}}$$

$$\text{fast}_n = (1 - c_1) * \text{fast}_{n-1} + c_1 * d_n$$

$$\text{slow}_n = (1 - c_2) * \text{slow}_{n-1} + c_2 * d_n$$

then:  $v_n = v_{n-1} + (\text{fast}_n - \text{slow}_n)$ ; and comparing  $v_n$  to a predetermined threshold. It is these steps found in each of the claims, as they are claimed in the combination, that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claim 101 is the inclusion of the limitations of adding all variances to obtain a cumulative variance score; and providing an output of the cumulative variance score. It is these limitations found in the claim, as it

is claimed in the combination, that have not been found, taught or suggested by the prior art of record, which make the claim allowable over the prior art.

The primary reason for the allowance of claims 103-105 and 107 is the inclusion of the limitation of a processor having an input means for receiving the measurements from the measurement device, the processor operable to implement an algorithm to the measurements, which algorithm cumulatively takes account of variations in body temperature over a time window, wherein the processor has an output means for providing the result of the algorithm. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 106 is the inclusion of the limitation of a processor having an input means for receiving the measurements from the measurement device, the processor operable to implement an algorithm to the measurements, which algorithm cumulatively takes account of variations in body temperature over a time window, wherein the processor has an output adapted to output a numeric value result of the algorithm from a comparison with a meat tenderness scale. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes the claim allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably



accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 39-41, 43-45, 47-56, 57-67 and 95-107 have been considered and are persuasive. Therefore, these claims are allowed.

Applicant's arguments with respect to claims 89-94 and 108 have been considered but are moot in view of the new ground(s) of rejection.

Claims 89-94 and 108 are rejected as new art (U.S. Pat. No. 5050612 to Matsumura) has been found to teach the limitations that are not taught explicitly by Wallace et al.; For detailed response, please refer to section 2 set forth above in this office action.

### ***Prior Art Citations***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- 1) Tong et al. (U.S. Pat. No. 5595444) teach a method and system for providing an indication of at least one of meat quality, pH levels, and stress levels in an animal to be slaughtered.
- 2) Jones et al. (U.S. Pat. No. 5458418) disclose a method for detecting poor meat quality in live animals.

- 3) Hofman (U.S. Pat. No. 5682149) teaches a body mountable measurement device for measuring body temperature of living animals.
- 4) Tremblay et al. (U.S. Pat. No. 6432399) disclose a method for analyzing the dependence of stress on body temperature in mammals.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Contact Information***

Art Unit: 2863

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (703)305-3467.

The examiner can normally be reached on 7:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

KS

January 29, 2004

John Barlow  
Supervisor  
Technology Center 2800